

## **WHAT IS CLAIMED IS:**

1. A method for identifying the current route of paths in a telecommunications MS-SPRINGS network, the MS-SPRING network comprising:

- network elements or nodes, each node comprising a controller, the controller comprising controller status;
- fiber optic spans interposed between the network elements to form a ring, each network element being connected to adjacent network elements through said fiber optic spans allowing a bidirectional communication therebetween;
- at least one path connecting two or more network elements of the ring, the at least one path, in a network free-of-failure condition, following a corresponding at least one Path Nominal Route;
- a network manager; and
- a mechanism for protecting traffic travelling in the network, said protection mechanism being shared in the network and being operated by the network manager,

the method comprising the steps of:

- a) providing the network manager with information relating to the Nominal Route of the at least one path; and
- b) providing the network manager with information of current status of the at least one network element, wherein it comprises the step of:
- c) processing the information provided through steps a) and b) so as to calculate the current route of the at least one path.

2. A method according to claim 1, wherein it comprises the further step of identifying which paths of the at least one path are carried at a span.

3. A method according to claim 1, wherein the processing step c) comprises the steps of:

- c1) analyzing the Path Nominal Route of the at least one path;
- c2) verifying if at least one of the Nominal Route spans comprises a node requesting the intervention of the protection mechanism to serve a failure or a user command resulting in a span re-routing and, in the affirmative, declaring that the current route coincides with the nominal route, where main spans are replaced by spare spans.

4. A method according to claim 3, wherein, should none of the nominal route spans be bounded by a node requesting the intervention of the protection mechanism to serve a failure or a user command resulting in a span re-routing, it further comprises the step of checking if at least one

of the spans of the Nominal Route is bounded by a node requesting the intervention of the protection mechanism to serve a failure or a user command resulting in a ring re-routing.

5. Method according to claim 4, wherein it further comprises the step of declaring that the current route coincides with the nominal route should none of the nominal route spans be bounded by a node requesting the intervention of the protection mechanism to serve a failure or a user command resulting in a ring re-routing.

6. A method according to claim 5, wherein, should at least one of the Nominal Route spans be bounded by a node requesting the intervention of the protection mechanism to serve a failure or a user command resulting in a ring re-routing, it further includes the steps of checking if any spans of the negated route comprise a ring node and

- in the negative, declaring that the current route coincides with the Ring Spare Route, or
- in the affirmative, declaring that the current route coincides with the nominal route.

7. A network manager able to identify the current route of paths in a telecommunications MS-SPRINGS network, the MS-SPRING network comprising:

- network elements or nodes, each node comprising a controller, the controller comprising controller status;
- fiber optic spans interposed between the network elements to form a ring, each network element being connected to adjacent network elements through said fiber optic spans allowing a bidirectional communication therebetween;
- at least one path connecting two or more network elements of the ring, the at least one path, in a network free-of-failure condition, following a corresponding at least one Path Nominal Route; and
- a mechanism for protecting traffic travelling in the network, said protection mechanism being shared in the network and being operated by the network manager,

the manager comprising:

- a) a memory for storing information relating to the Nominal Route of the at least one path; and
- b) a memory for storing information of current status of the at least one network element, wherein it further comprises:
- c) a processor for processing the information stored at a) and b) so as to calculate the current route of the at least one path.

8. A manager according to claim 7, wherein it further comprises means for identifying the carried paths at each span.

9. A computer program comprising computer program code means adapted to perform all the steps of claim 1 when said program is run on a computer.

10. A computer-readable medium having a program recorded thereon, said computer-readable medium comprising computer program code means adapted to perform all the steps of claim 1 when said program is run on a computer.